

NOTES ON ODONATA FROM NEWFOUNDLAND, COLLECTED IN 1874  
BY MR. JOHN MILNE.

BY THE BARON E. DE SELYS-LONGCHAMPS.

LIBELLULINA.

*Leucorrhinia hudsonica*, Selys (Rev. des Odonates, p. 53), 1 ♂ from White Bay, similar to my type.

CORDULIINA.

*Cordulia Shurtleffi*, Scudder (Selys, Syn. Cord., p. 31), 1 ♀.

*Epitheca cingulata*, Selys (Syn. Cord., p. 68, ♀), 2 ♂, 3 ♀, from White Bay and Bonavista Bay. The following is a description of the ♂, which sex was previously unknown to me :—

Length of abdomen, 40 mm. ; of posterior wing, 37 mm.

Wings scarcely tinted ; the anal border of the posterior slightly ochraceous in the anal triangle next the membranule, this latter black, white at the base ; neuration black (the costa slightly brown exteriorly up to the nodus) ; pterostigma brown, placed between two thickened black nervules (4 mm. long) ; discoidal triangles with transverse nervules in all the wings (or aberrantly free in one), followed by two to three cellules, and afterwards by two rows of post-trigonal cellules ; 8—9 ante-cubital nervules, 6—7 post-cubital, in the anterior wings. Head and thorax bright bronzy-brown ; lower lip yellow, the upper shining blackish ; rhinarium yellowish ; occiput, vertex and front bronzy-blackish, the latter yellowish at the sides. Front of the thorax somewhat coppery-green (*without pale bands*). Abdomen bronzy-blackish, the sides of segments 1—3 pale brown ; terminal suture of segments 2—9 *forming a yellowish circle*. Legs black ; the anterior and intermediate femora reddish-brown ; the posterior femora *not swollen*. Anal appendages black. The superior equalling the 9th and 10th segments (1 mm. long), distant and acuminate at the base, almost straight and cylindrical *in their first third*, abruptly elbowed and turned downward, one against the other, at a slightly obtuse angle in their last third, the slender points *crossed and curved upward* ; they are pubescent, and have, at their base exteriorly, *a small acute tooth*, and the elbow is thickened exteriorly, forming a tubercle (*but not a tooth*). Inferior appendage one-third shorter ; viewed laterally slightly curved upward ; the apex nearly as broad as the base, truncate, and even forked, in consequence of the two external angles being slightly prolonged and curved upward.

N.B.—The form of the appendages proves that this species is allied to *tenebrosa*. It is separated from it especially by the yellow circle at the abdominal sutures, by the very long pterostigma, the absence of pale bands on the sides of the thorax, the femora not swollen, and, finally, by the inferior appendages being furcate at the apex. It much resembles *albicincta*, but in the latter the inferior appendage of the ♂ is *triangular*, and the vulvar scale of the ♀ strongly bilobate.

*Epitheca forcipata*, Scudder (Selys, Syn. Cord., p. 61), 1 ♀, from

White Bay. The coloration is very similar to that of the ♀ of *elongata*. It is of the same variety noticed from Fort Resolution, and differs from the European *arctica* by the two conspicuous oval yellow bands on the sides of the thorax.

#### ÆSCHNINA.

*Æschna hudsonica*, n. sp., 1 ♂, 4 ♀, from White Bay (also Canada).

Length of abdomen, ♂, 59 mm., ♀, 55; length of inferior wing, ♂, 49 mm., ♀, 50.

♂. Very similar to *juncea* in size, coloration, the two yellow bands on the front of the thorax, and the two broad bands on the sides, as well as in the three little tubercles on the 10th segment, *but the pterostigma is slightly shorter and blackish*.

♀. Separated from *juncea* by the *shorter* pterostigma (3½ mm. in length; 4½ in *juncea* of the same size).

*Æschna clepsydra*, Say. (?), 2 ♀, one indicated as from Castor River. Similar to the ♀ of my collection (received from Dr. Asa Fitch), but my ♂ from Canada does not correspond with Hagen's description. The ♀ differs from *hudsonica* by the face having a transverse *pale red* line between the front and the nasus (this line is *black* in *hudsonica* and *juncea*). Separated from *borealis* by the eyes being less longly contiguous.

#### GOMPHINA.

*Gomphus* —?, 1 ♂, from Terra Nova River, only just emerged.\* I cannot determine the species, because the appendages are not in a condition for examination. However, from the size and coloration it appears to be allied to *G. parvulus*, Selys (of Nova Scotia). It is important to note the excessively short and numerous spines of the posterior femora, which are very useful as a clue to the inferior groups of the genus *Gomphus*. The appendages of this individual (in the state they are now in) have some analogy with those of *Ophiogomphus*.

#### AGRIONINA.

*Anallagma boreale*, n. sp., 1 ♂, 1 ♀, the former from White Bay.

Length of abdomen, ♂, 21½ mm., ♀, 24; inferior wing, ♂, 18 mm., ♀, 19.

Stature and coloration of *cyathigerum*, but differs as follows:—♂ (1) The blue post-ocular spots rather broader. (2) The black superior "comma" (*virgule*) of the second lateral suture of the thorax prolonged into a line on the suture up to the base of the posterior legs. (3) The sides of the 1st segment of the abdomen with a fine, *oblique*, curved black mark, parting superiorly beyond the base and touching the end of the segment posteriorly. Under-side of the 2nd segment *black*, this colour

\* Mr. Milne was present at its birth. I possess the puparium.—R. McL.

dilated and forming two angles near the genital organs. The posterior dorsal spot T-shaped, with the upper line of the T broadly innate, and the tail thickened. The upper-side of segments 3—6 with a black posterior spot analogous to those of *cyathigerum*, but broader laterally, in form of terminal rings touching the ventral suture, which is broadly black; these spots include (against the posterior articulation) a blue mark, and are somewhat notched near the ventral suture on the 5th and 6th segments, whereas, on the 3rd and 4th they are prolonged into a fine line towards the base along the ventral side. (4) Anal appendages analogous; but the superior (half as long as the 10th segment) thicker when viewed from above, because the point which exists in *cyathigerum* before the apex is here transformed into a little plate, almost square, inclined downward, one directed against the other, almost as in *ebrium*, but smaller; viewed laterally these appendages are thick, as long as the 10th segment, yellow, black at the point, slightly thicker and more erect than in *cyathigerum*.

♀. The ground colour is pale reddish, the spine of the 8th segment long. It differs from *cyathigerum* as follows:—(1, 2, 3, see the description of the ♂); (4) The second segment has no black band, but a simple dorsal posterior spot, almost as in the ♂, lanceolate anteriorly; the bronzy spots less extended above on the 3rd to 6th segments, not commencing till after the 1st quarter, where they are pointed, and then suddenly dilated in the last third (as in the ♂).

N.B.—The two sexes differ from all the allied species by the oblique black line on the sides of the 1st segment, thus resembling *Agrion concinnum*. (This line is found in *Æ. robustum*, n. sp., from California, of which I know only the ♀, but this is allied to *durum*, having four ante-nodal cellules, and not three as in all the other species). The ♂ is also unique in the sub-genus by the black ventral band of the second segment, and the ♀ by that segment having only a simple hastate dorsal spot, and by the eighth segment being pale red. By the internal plate-like internal dilatation of the superior appendages it approaches *ebrium*, but in this latter the inferior appendages are equal to the superior, and the coloration of the abdomen is quite different.

Liège: February, 1875.

[NOTE.—The materials from which this paper has been drawn up were collected in various parts of Newfoundland by my young friend Mr. John Milne, F.G.S., who has spent two summers and autumns in Newfoundland. Before starting on his last expedition I urged him to collect any insects he might find, believing that less is known of the entomology of Newfoundland than of any other British colony. He brought an extensive miscellaneous assemblage in all orders, but principally *Lepidoptera*. The few individuals in other groups of *Neuroptera* are scarcely worth noticing at present; but there was a very fine ♂ specimen of *Neuronina postica*, Hag.—R. McLACHLAN.]